

What is claimed is:

1. A wireless internet access system, wherein a flying object is connected with an earth station connected with an internet, wherein:
  - 5 said flying object comprises:
    - a LAN;
    - a flying router connected with said LAN for communicating bi-directionally with said earth station; and
    - user's terminals connected with said LAN, and
  - 10 said earth station comprises:
    - an antenna for tracking said flying object;
    - antenna control means for controlling the direction of said antenna;
    - an antenna beacon signal receiver connected with said antenna;
  - 15 a MODEM connected with said antenna beacon signal receiver;
  - an earth router for accessing to said internet; and
  - timing separation means for separating the receiving timing of data transmitted by said flying object from the control timing of said direction of said antenna, when said receiving timing overlaps with said control timing.
2. The wireless internet access system according to claim 1, wherein said timing separation means delays said control timing, compared with said receiving timing.
- 25 3. The wireless internet access system according to claim 1, wherein:
  - said MODEM includes disable signal generation means for generating a disable signal for controlling said direction of said

antenna, when a start delimiter is detected in a frame transmitted by said flying object, and

5        said antenna beacon signal receiver includes enable signal generation means for generating an enable signal for controlling said direction of said antenna, when a beacon signal transmitted by said flying object is detected,

      said antenna control means includes antenna control start means for starting controlling said direction of said antenna, which:

10      inputs said disable signal and said enable signal; prohibits said controlling, when said enable signal becomes active during the period when said disable signal is active; and starts said controlling, when said disable signal becomes inactive.

15      4. The wireless internet access system according to claim 3, wherein said antenna control means comprises:

      optimum control means for controlling said direction of said antenna;

20      accumulation means for storing said beacon signal; and arbitration means for generating an accumulation control signal for controlling writing-in and reading-out of said beacon signal into and out of said accumulation means.

      5. The wireless internet access system according to claim 3, wherein said MODEM comprises:

25      a frequency down-converter for converting signals in frames received by said antenna;

      an quadrature demodulator for inputting the output from said frequency down-converter;

      an A/D converter for converting the output from said

quadrature demodulator;

an equalizer for inputting the output from said A/D converter;

5 a start delimiter detection unit for inputting the output from said equalizer and for detecting a start delimiter in said frames received by said antenna;

an assembly/disassembly unit for assembling and disassembling said frames;

10 an encoder for inputting the output from said assembly/disassembly unit;

a D/A converter for converting the output from said encoder;

an quadrature modulator for modulating the output from said D/A converter; and

15 a frequency up-converter for converting the output from said quadrature modulator,

wherein said start delimiter detection unit makes said disable signal active and outputs the active disable signal into said antenna control means, when said start delimiter detection unit detects said start delimiter at a preamble of each 20 of said frames.

6. The wireless internet access system according to claim 1, wherein said flying object is an air plane.

7. The wireless internet access system according to claim 1, wherein said flying router comprises:

25 a internal router connected with said LAN;

a flying MODEM connected with said flying router;

a beacon signal generator for generating a beacon signal;

a flying antenna for transmitting said beacon signal and for communicating bi-directionally with said earth station.

8. An earth station connected with an internet for communicating a LAN on a flying object, which comprises:

- an antenna for tracking said flying object;
- antenna control means for controlling the direction of said antenna; and
- postponing means for generating a disable signal for postponing said controlling until said earth station completes receiving data in a frame transmitted by said flying object, when the timing of receiving said data in said frame transmitted by said flying object overlaps with the timing of receiving a beacon signal transmitted by said flying object.

9. An earth station connected with an internet for communicating a LAN on a flying object, which comprises:

- an antenna for tracking said flying object;
- antenna control means for controlling the direction of said antenna; and
- a MODEM for modulating and demodulating signals to and from said flying object;
- accumulation means for storing a beacon signal transmitted by said flying object; and
- a router connected with said MODEM for accessing to said internet, wherein said MODEM comprises:
- disable signal generation means for making a disable signal active, when said MODEM detects a start delimiter in a preamble of a frame transmitted by said flying object, and for outputting the active disable signal; and
- antenna control start means for prohibiting said controlling on the basis of said active disable signal, when the timing of receiving data in said frame overlaps with the timing of

receiving said beacon signal, for allowing said antenna beacon signal to be stored into said accumulation means, and for starting said controlling, when said MODEM completes receiving said data in said frame.

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